

- Fig. 7. Left valve, exterior view, natural size. Woodhall, water of Leith; cabinet of Dr. Traquair.
- Fig. 8. Interior view of fig. 7: *a*, central undivided tooth; *b*, anterior tooth; *c*, elongated posterior tooth; *d*, anterior adductor scar; *e*, posterior adductor scar; *f*, pallial line; *g*, internal oblique ridge.
- Fig. 9. Right valve, interior view, natural size. Woodhall, water of Leith; cabinet of Dr. Traquair. *a*, large anterior tooth; *b*, elongated posterior tooth.

## BIBLIOGRAPHICAL NOTICE.

*Fossil Inland Shells from Dalmatia, Croatia, and Slavonia.* By SPIRIDION BRUSINA, Director of the Zoological Department of the National Museum of the Triune Kingdom, &c. &c. German enlarged edition of the Croatian Memoir in the "Rad" of the South-Slavonian Academy of Sciences and Art at Agram. Svo, pp. 144, with 7 plates. Agram: 1874. (Fossile Binnen-Mollusken aus Dalmatien &c.)

THE collection of fossils here described and illustrated consists of 20,000 specimens, from about 30 localities, carefully enumerated. There are 139 species (109 Gasteropoda and 30 Conchifera), of which 49 are either new or were little known, and 11 are now much more fully determined than heretofore. Only 10 require either better preserved specimens for illustration or further books of reference for the author to make his determinations certain, namely:—*Hyalina*, 1; *Helix*, 1; *Limnæa*, 2; *Planorbis*, 3; *Pisidium*, 1; *Dreissena*, 2 species. Of the remaining 129, 13 are still living in Dalmatia, Croatia, or Slavonia, namely:—

<i>Melanopsis Esperi</i> , Fér.	<i>Succinea oblonga</i> , Drap.
— <i>acicularis</i> , Fér.	<i>Helix pomatia</i> , L.
<i>Lithoglyphus fuscus</i> , Zieg.	<i>Ancylus lacustris</i> , L.
<i>Bythinia tentaculata</i> , L.	<i>Sphærium lacustre</i> , Müll.
<i>Valvata piscinalis</i> , Müll.	<i>Pisidium amnicum</i> , Müll.
<i>Neritina danubialis</i> , C. Pfeif.	<i>Dreissena polymorpha</i> , Pall.
<i>Succinea elegans</i> , Risso.	

And 4 live still in other parts of Europe:—

<i>Melanopsis præmorsa</i> , L.	<i>Melanopsis maroccana</i> , Chem.
— <i>costata</i> , Fér.	<i>Hydrobia stagnalis</i> , Bast.

The remaining 112 species are extinct; and of these, 24 had been already described by Brongniart, Partsch, Férussac, Krauss, Fuchs, Bielz, Braun, Thomæ, Hörnes, and others; whilst 41 have been described mostly by Neumayr in 1869, and by Brusina in this memoir. The distribution of the species in the Three Kingdoms, and their relationship to recent forms, are carefully shown.

The following appear to have continued from the Miocene brackish-water beds :—

Melania Escheri, <i>Brongn.</i>	Neritina picta, <i>Fér.</i>
Melanopsis inconstans, <i>Neum.</i>	Helix turonensis, <i>Desh.</i>
— Bouei, <i>Fér.</i>	— pomatia, <i>L.</i>
— vindobonensis, <i>Fuchs.</i>	Dreissena polymorpha, <i>Pall.</i>
Neritina nivosa, <i>Brus.</i>	

From the Miocene freshwater beds :—

Melania Escheri, <i>Brongn.</i>	Bythinia croatica, <i>Brus.</i>
Melanopsis præmorsa, <i>L.</i>	Neritina callosa, <i>Meneg.</i>
— Esperi, <i>Fér.</i>	Dreissena Fuchsi, <i>Pilar.</i>
— acicularis, <i>Fér.</i>	— triangularis, <i>Partsch.</i>
— impressa, <i>Krauss.</i>	— balatonica, <i>Partsch.</i>
Hydrobia stagnalis, <i>Bast.</i>	

From the Pliocene Congeria-beds :—

Hydrobia stagnalis, <i>Bast.</i>	Valenciennsia annulata, <i>Rousseau.</i>
Bythinia tentaculata, <i>L.</i>	— Pauli, <i>R. Hörn.</i>
Vivipara bifurcata, <i>Bielz.</i>	Pisidium amnicum, <i>Müll.</i>

All the *other Dalmatian* species come from the Pliocene freshwater marl; and the *Croatian* and *Slavonian* from the freshwater Paludina-clays, which the author regards as different from the true Congeria-beds.

The relationships of all the fossil species with those now found in the several "Regions" defined by naturalists are fully treated of.

The genera under notice are :—

Amnicola (2 spp.).	Neritina (9).
Ancylus (1).	Pisidium (2).
Bythinia (3).	Planorbis (6).
Dreissena (11).	Prososthenia (4).
Emmericia, <i>nov. gen.</i> (2).	Pyrgula (2).
Fossarulus (3).	Sphærium (1).
Helix (5).	Stalioa, <i>nov. gen.</i> (2).
Hyalina (1).	Succinea (2).
Hydrobia (5).	Unio (20).
Limnæa (4).	Valenciennsia (3).
Lithoglyphus (2).	Valvata (3).
Melania (1).	Vivipara (28).
Melanopsis (24).	

Descriptions of the 139 species, and of some genera in particular, follow, illustrated by the seven lithographic plates.

In an appendix, on the shells found in the Congeria-beds of Agram, Sp. Brusina treats of additional species belonging to

Ampullaria (1).	Lithoglyphus (1).
Cardium (17).	Melanopsis (2).
Cyclostomus (1).	Micromelania, <i>nov. gen.</i> (5).
Dreissena (3).	Planorbis (3).
Hydrobia (1).	Pyrgula (1).
Limnæa (2).	Valvata (3).

The author has worked *con amore* and to good purpose. He shows his results often in useful tables and classified lists. The printing of the memoir is good; and the lithographs are bold, careful, and natural, though somewhat poorly printed.